IN THE CLAIMS

1. (Currently amended) A method of preparing a biomolecule lysate, comprising the steps of:

(a) heating a composition comprising a ~~chemically~~ **formalin** fixed biological sample and a reaction buffer at a temperature between about 80°C and about 100°C for a period of time from about 10 minutes to about 4 hours to reverse or release protein cross-linking in said biological sample, and

(b) treating the resulting composition with an effective amount of a proteolytic enzyme selected from the group consisting of trypsin, chymotrypsin, and endoproteinase Lys-C for a period of time from about 30 minutes to about 24 hours at a temperature between about 37°C to about 65°C to disrupt the tissue and cellular structure of said biological sample and to liquefy said sample, thereby producing a liquid, soluble, dilutable biomolecule lysate that is suitable for protein analysis and wherein the protein content of said lysate is representative of the total protein content of said biological sample.

2. (Previously presented) The method according to claim 1, wherein said biological sample comprises a substantially homogeneous population of tissues or cells.

3. (Previously presented) The method according to claim 1, further comprising, prior to step (a), the step of removing any paraffin present in said biological sample by one or more methods selected from the group consisting of: adding an organic solvent; heating; heating and adding a buffer comprising Tris; and heating and adding an organic solvent.

4. (Original) The method according to claim 1, further comprising the step of mechanically disrupting said biological sample by at least one technique selected from the group consisting of: manual homogenization; vortexing; and physical mixing.

5-8. (Canceled)

9. (Currently amended) The method according to claim 1~~,~~ wherein said reaction buffer comprises a detergent.

10. (Currently amended) The method according to claim 1~~,~~ wherein step (b) is carried out in the presence of a detergent.

11. (Original) The method according to claim 9, wherein said detergent is selected from the group consisting of Nonidet P40, SDS, Tween-20, Triton X, and sodium deoxycholate.

12. (Original) The method according to claim 10, wherein said detergent is selected from the group consisting of Nonidet P40, SDS, Tween-20, Triton X, and sodium deoxycholate.

13. (Canceled)

14. (Original) The method according to claim 1, wherein said reaction buffer comprises Tris and has a pH in the range of about 6.0 to about 9.0.

15. (Currently amended) The method according to claim 1~~,~~ further comprising the step of fractionating said ~~multi-use~~ biomolecule lysate into distinct and separate biomolecule fractions.

16. (Currently amended) The method according to claim 15~~,~~ wherein each biomolecule fraction contains distinct and separate biomolecules suitable for use in biochemical assays.

17. (Previously presented) The method according to claim 1, wherein said biological sample is selected from a group consisting of formalin-fixed tissue/cells, formalin-fixed/paraffin embedded (FFPE) tissue/cells, FFPE tissue blocks and cells from those blocks, and tissue culture cells that have been formalin fixed and or paraffin embedded.

18-39. (Canceled)

40. (Currently amended) The method of claim 15, wherein said fractionating is carried out using a method selected from the group consisting of step spin column fractionation, immunoprecipitation, gradient centrifugation, HPLC and drip column fractionation.

41. (Currently amended) The method of claim 1, further comprising assaying said **biomolecule** lysate using mass spectrometry.